Universitat de Lleida

DEGREE CURRICULUM

STATISTICAL METHODS

Coordination: VOLTAS VELASCO, JORDI

Academic year 2022-23

STATISTICAL METHODS 2022-23

Subject's general information

<table>
<tr><td>Subject name</td><td>STATISTICAL METHODS</td></tr>
<tr><td>Code</td><td>14423</td></tr>
<tr><td>Semester</td><td>2nd Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr>
<tr><td>Master's Degree in Agronomic Engineering</td><td>1</td><td>COMPULSORY</td><td>Attendance-based</td></tr>
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<tr><td>Course number of credits (ECTS)</td><td>6</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
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<tr><th>Activity type</th><th>PRALAB</th><th>TEORIA</th></tr>
<tr><th>Number of credits</th><td>3</td><td>3</td></tr>
<tr><th>Number of groups</th><td>1</td><td>1</td></tr>
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<tr><td>Coordination</td><td>VOLTAS VELASCO, JORDI</td></tr>
<tr><td>Department</td><td>CROP AND FORESTRY SCIENCES</td></tr>
<tr><td>Teaching load distribution between lectures and independent student work</td><td>40% in-person and 60% personal work</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
<tr><td>Language</td><td>Catalan (100%), or Spanish if needed</td></tr>
</table>

STATISTICAL METHODS 2022-23

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
SEGARRA BOFARULL, JOAN	joan.segarra@udl.cat	2	
VOLTAS VELASCO, JORDI	jordi.voltas@udl.cat	4	

Learning objectives

(1) To learn basic concepts of inferential statistics useful in design and analysis of experiments in agri-food sciences. (2) To become familiar with a number of widely used experimental designs in relation to the objectives of the study. (3) To understand the application of General Linear Models (GLM) in agri-food sciences, including fixed and mixed models. (4) To provide an overview of a number of analytical methods based on the application of GLM theory (analysis of variance and covariance, regression) and of alternative designs and analyses of particular interest in agri-food sciences.

Subject contents

1. Basic experimental design in agri-food sciences

2. Checking the assumptions: homogeneity, normality and independence

3. General linear models

4. Linear regression models

Evaluation

Homework policy: Homework solutions must be the result of your own work. You may use:

- Textbooks, course handouts and notes from lectures

- Discussion with the instructors

- Voluntary, mutual and cooperative discussion with other students in the class.

Homework will be posted in Campus Virtual. It will be usually available weekly and the instructor will warn every time a new homework is assigned. It will be due and handed well before their public presentation (or before an exam, if applicable).

Exams: there will be two exams at end-semester (computing 20% and 30% of the final mark respectively)

Bibliography

- Gómez KA & Gómez AA (1984) Statistical procedures for agricultural research. Wiley. [519.2:63 GOM]

- Jayaraman K (1999) A statistical manual for forestry research. FAO (available in pdf version, posted in Campus Virtual)

- Little TM, Hills FJ (1978) Agricultural experimentation: design and analysis. Wiley. [519.2:63 LIT]

- Montgomery DC (2009). Design and analysis of experiments. Wiley. [519.2 MON]

- Steel RGD & Torrie JH (1980) Principles and procedures of statistics: a Biometrical approach. McGraw-Hill. [519.2 STE]